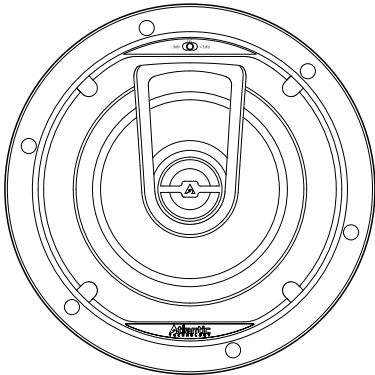


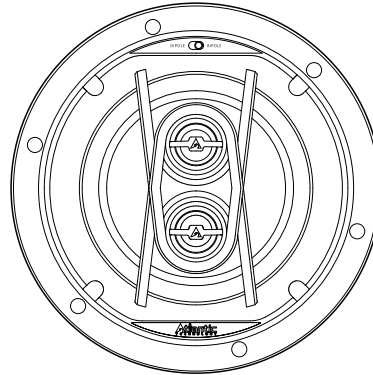
AZURE Series

AZ600,AZ610,AZ620,AZ810 and AZ820
In-Ceiling Speakers

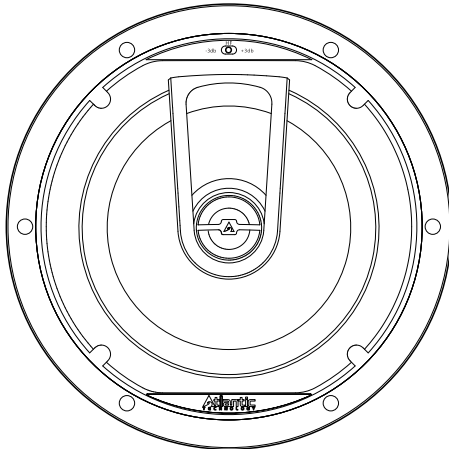
AZ610



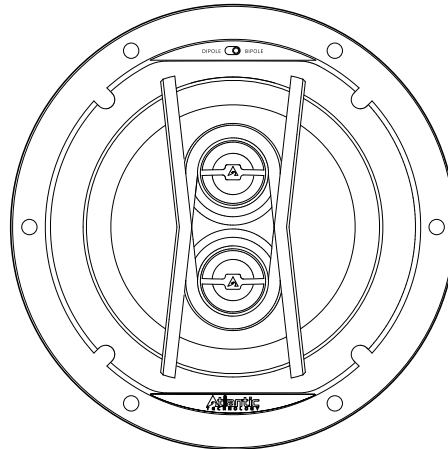
AZ620



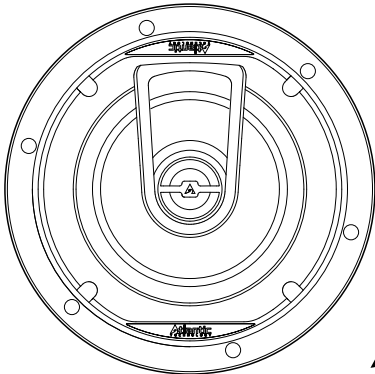
AZ810



AZ820



AZ600



Atlantic
TECHNOLOGY

Instruction Manual

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Model AZ600,610,620,AZ810,820 In-Ceiling Speakers

Thank you for your purchase and welcome to the family of Atlantic Technology owners. Please read the following installation and operation guidelines carefully to ensure enjoyment of your home audio system for years to come.

Although we recommend that Atlantic Technology flush-mount loudspeakers should be fitted by competent installation technicians, installation is also well within the means of a competent DIY enthusiast when performed with the aid of this instruction guide. You may also find it useful to visit our web site for the latest tips and techniques on installation.

Your Atlantic Technology flush-mount loudspeakers are designed to blend into your home interior while providing superior sound quality. At Atlantic Technology we continuously strive to improve our products and it is for this reason that we reserve the right to change product specifications without notice. The information concerning product specifications and instructions in this manual do not necessarily set forth all technical or other specifications of Atlantic Technology products.

Important Safety Information

- Do not use this or other electrical equipment near water or other liquids
- Clean only with a dry cloth
- Do not block any ventilation openings. Install in accordance with all safety standards and regulations.
- Do not install near any heat sources such as stoves, radiators, heat registers, amplifiers or any other apparatus producing heat.
- Use attachments and accessories as indicated by the manufacturer.
- No user-serviceable parts inside. Refer all servicing to qualified service personnel.
- Warning: To reduce the risk of fire or electrical shock, do not expose this apparatus to rain, moisture or other liquids.
- Warning: To prevent injury, this apparatus must be securely attached to the wall/ceiling in accordance with the installation instructions. No naked flame sources such as candles should be placed close to the product.
- Caution: Changes or modifications not expressly approved by Atlantic Technology could void the warranty.

For Future Reference

Record your serial numbers and date of purchase here:

Model Number

Serial Number

Date of Purchase

The serial number is found on the back panel.

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Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or designs at any time without notice.

Features

- **Fiberglass Cones:** Lighter, stiffer, and lower distortion to improve speed and clarity of sound.
- **Soft-dome tweeters:** Another feature often found in the world's finest loudspeakers. The low mass of silk dome and its self-damping properties deliver more accurate sound with less distortion.
- **Adjustable tweeters:** The tweeters in your Atlantic Technology loudspeakers are mounted in an orbital socket and can be adjusted by gently pressing on their edge. This adjustment allows for directing the sound when the speaker may need to be offset from an ideal listening position due to aesthetic or physical reasons.
- **Stable tweeter bridge mounting:** The tweeters in our ceiling loudspeakers are mounted on an extremely stable bridge rather than on a central pole as found in many other designs. This mounting method is less prone to resonance and vibration than a central pole tweeter mount, resulting in cleaner sound, especially at high listening levels..
- **Bipole/Dipole Switch (AZ620 and AZ820 only):** This switch allows these dual-tweeter speakers to operate as highly-effective diffuse surround speakers in a home-theater system when their tweeters are out of phase in the Dipole position.
- **Cut-out template:** Atlantic Technology loudspeakers come with a cut-out template to allow the installer to accurately measure the hole to be cut out in the wall or ceiling surface resulting in an easier installation process.
- **Pre-construction bracket:** All Atlantic Technology loudspeakers have an optional plastic pre-construction bracket. Their use is optional, but can be very helpful to the installation process at the time the plaster-board is about to be attached to the wall/ceiling. Therefore they would be used only during more extensive renovations and not when retrofitting the loudspeakers into an existing surface.
- **Paintable Grilles:** Your Atlantic Technology loudspeakers come with steel grilles pre-painted in white. These may be painted if required. Important: Please refer to the section later in this manual on painting grilles before you attempt any painting.

Speaker Placement

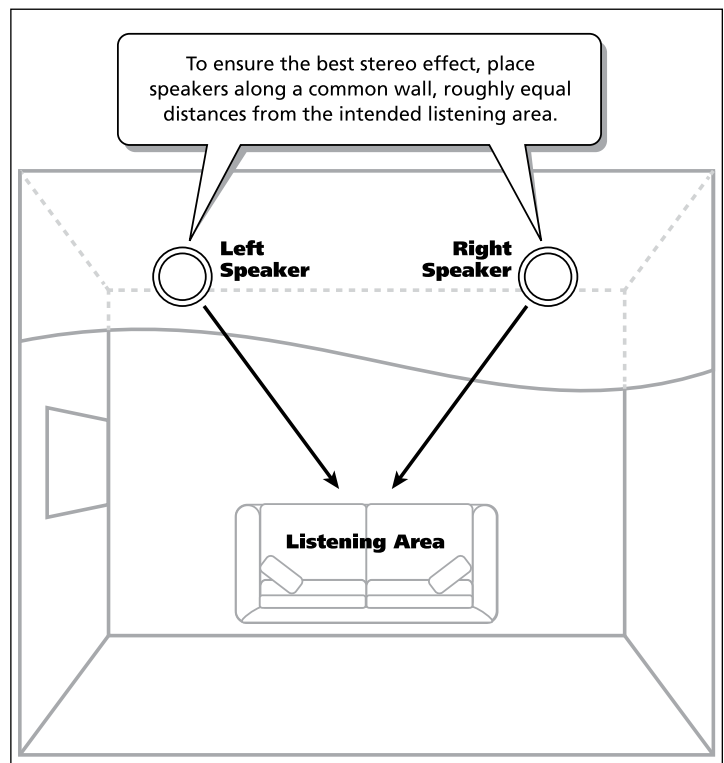
The pivoting tweeters in Atlantic Technology loudspeakers are able to compensate for unusual placements of the speakers themselves. However, the ideal positioning of the speakers should be at roughly equal distances from the intended listening area and along a common wall. This helps to ensure the best stereo effect.

Naturally, intended listening positions are rarely static and they may vary considerably within a room. In these circumstances, you can confidently compromise on the ideal location and use the pivoting tweeter to assist without impacting your listening pleasure.

2-Channel Audio Placement

In standard two channel audio systems, the ideal distance between the left and right channel speakers should be in the range of 6-10 feet (1.8-3.0m) apart. If the layout of the joists and light fittings permit, the speakers should be equidistant from the most commonly used listening position.

Stereo Sound Layout



Atlantic Technology ceiling loudspeakers feature swivelling tweeters to aim sound directly at the listening area to compensate for offset mounting.

Distributed Audio Placement

Atlantic Technology loudspeakers possess extremely smooth and predictable off-axis frequency response. However, in some cases, where the room is large, you may wish to consider the use of two (or more) pairs of speakers in order to provide a wider and more even dispersion of sound. A more even distribution of sound in this way means that people within the room are more likely to be equidistant from the speakers so that there are less hot or cold spots of audio volume.

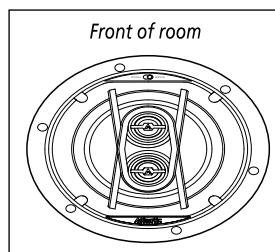
When connecting more than one pair of speakers to an amplifier it is vital to maintain a compatible impedance load between the amplifier and speakers. Your amplifier will specify an acceptable impedance range which it can handle and you must ensure you do not drop the total impedance below that specified minimum level or you may damage your amplifier. If in doubt you should consult a professional installer or contact Atlantic Technology directly before commencing installation.

As an example, a typical amplifier may specify an acceptable operational impedance range of 4 to 8 ohms. If you connect two pairs of Atlantic Technology 8-ohm loudspeakers in parallel, the impedance you will present to the amplifier is 4 ohms. This is within acceptable limits of most quality amplifiers. If you connect them in series, you will present 16 ohms resistance to the amplifier which will reduce the available power, but be a very safe load for the amplifier.

Generally, you should not connect two 4-ohm loudspeakers in parallel, because then the impedance will be 2 ohms and may damage your amplifier. If they are connected in series, the impedance will be 8 ohms and therefore within acceptable limits.

Please note that, much like attaching a trailer to the back of a car, attaching a second set of speakers to an amplifier puts an additional load on the amplifier (or engine). This makes it work harder for the same performance or it may simply not have the power to perform satisfactorily. You need to check the capability of your chosen amplifier before attempting multiple speaker connection.

5.1 Channel Home Theater Placement

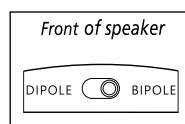


of the theater (see diagram on page 5).

When using the AZ620 or AZ820 speakers as side channel speakers in a 5.1 channel home theater environment, they should be located directly alongside the listening area to just slightly (1-2 ft.) behind it. If you are setting them to Dipole (see diagram below), the tweeter with the single leg of the bridge should face towards the front

7.1 Channel Home Theater Placement

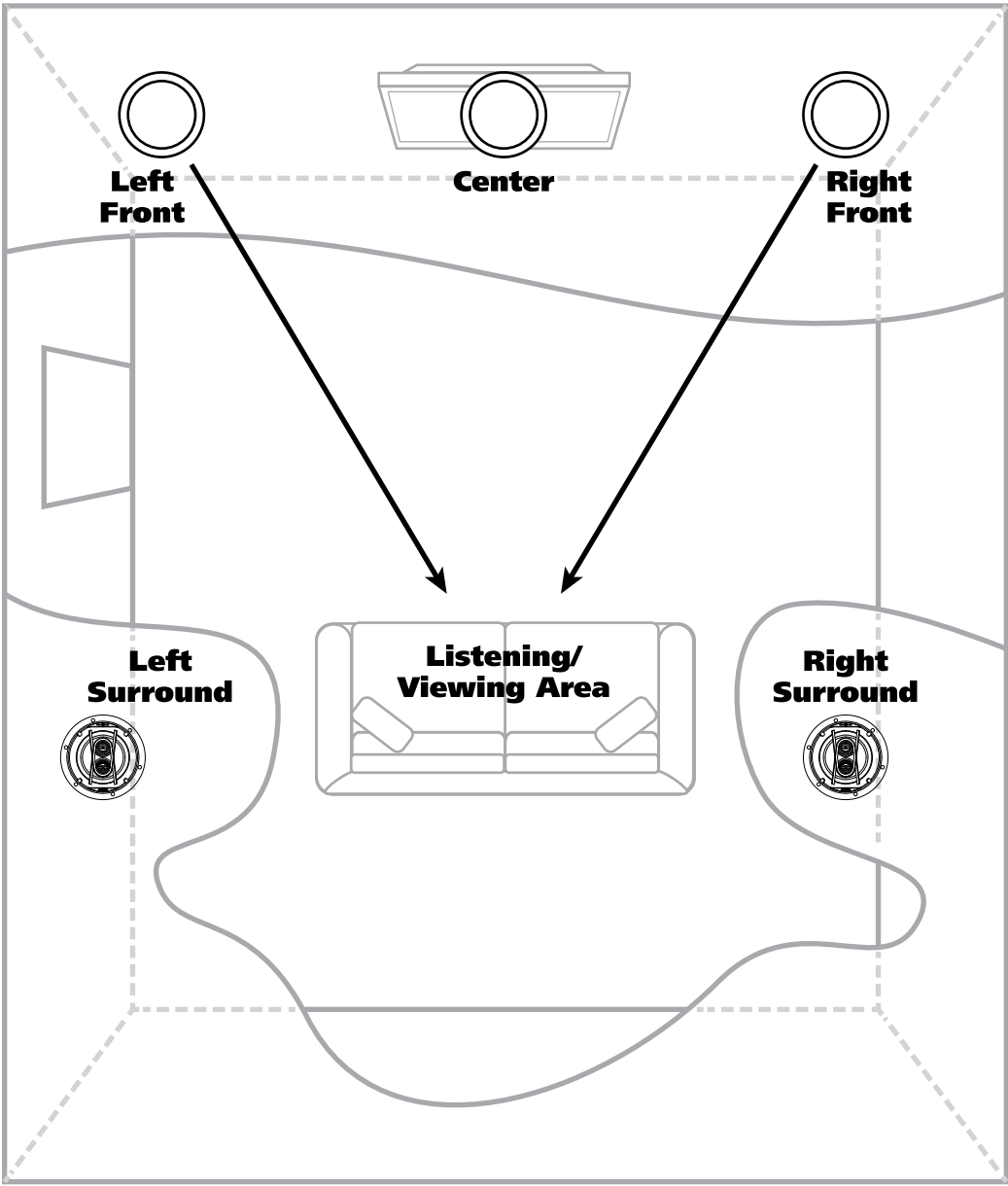
When using the AZ620 or AZ820 speakers as side and back channel speakers in a 7.1 channel home theater environment, they should be located directly alongside the listening area to just slightly (1-2 ft.) behind it. If you are setting them to Dipole, the tweeter should face towards the front of the theater (see diagram on page 6). The back speakers should be behind the listening position, about 1-2 ft. away from the rear wall if possible.



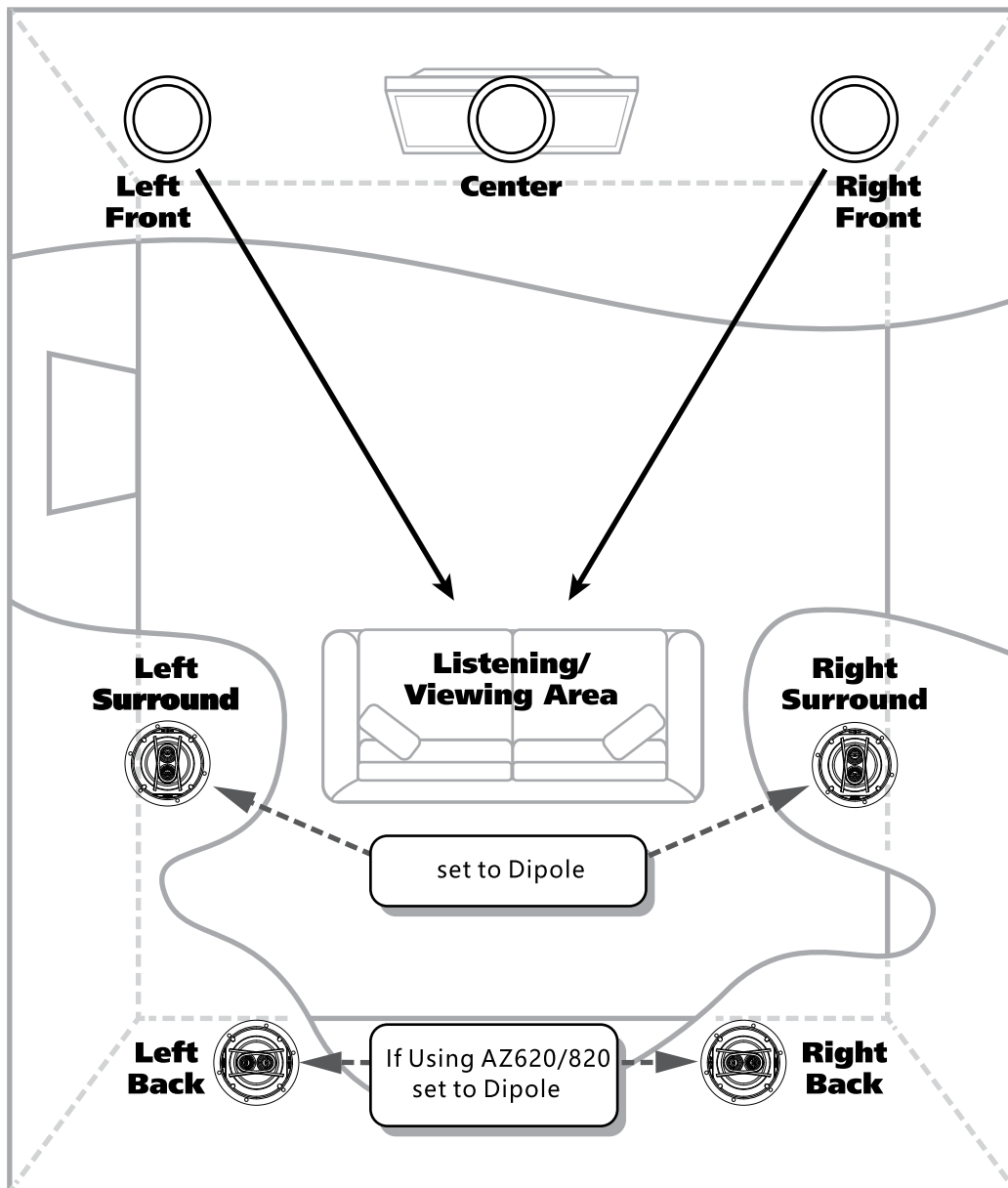
Generally, the best results are when the AZ620/820 back speakers are set to Dipole, whether or not the AZ620/820 side speakers are set to Dipole.

You may use the AZ610 or AZ810 as either side or back surround speakers, with excellent results, in either a 5.1 or 7.1 home theater system. If you are mixing AZ620/820 and AZ610/810 surround speakers in a 7.1 system, it is advisable to use the AZ620/820 as side surrounds, set to Dipole. Use the angle tweeter capability on the AZ610/810 speakers to aim the tweeter away from the listeners, towards the wall, to create a more non localizable, diffuse surround effect.

Home Theater (5.1 Channel) Layout



Home Theater (7.1 channel) Layout



Using the AZ620 or AZ820 as a Single Point Stereo Speaker

Your AZ620/820 comes from the factory ready for conventional (mono) use. This means a single speaker will handle a single channel of information, such as what is required for surround channel use.

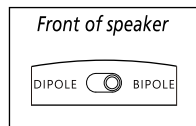


If you are going to use your AZ620/820 speaker for surround channel duties, leave the jumpers in the configuration shown to the left.

The AZ620 and AZ820 speakers feature two sets of push-to-connect terminals. You may connect the speaker wires to either set of terminals but it is essential that the correct polarity of the connections to your amplifier is maintained.



If you want to use the AZ620/820 as a single-point stereospeaker (where the left and right channels are handled by the single unit), then move the jumpers to the position shown left. Set the Bipole/Dipole switch to the Bipole position so the tweeter is in phase with the woofer.



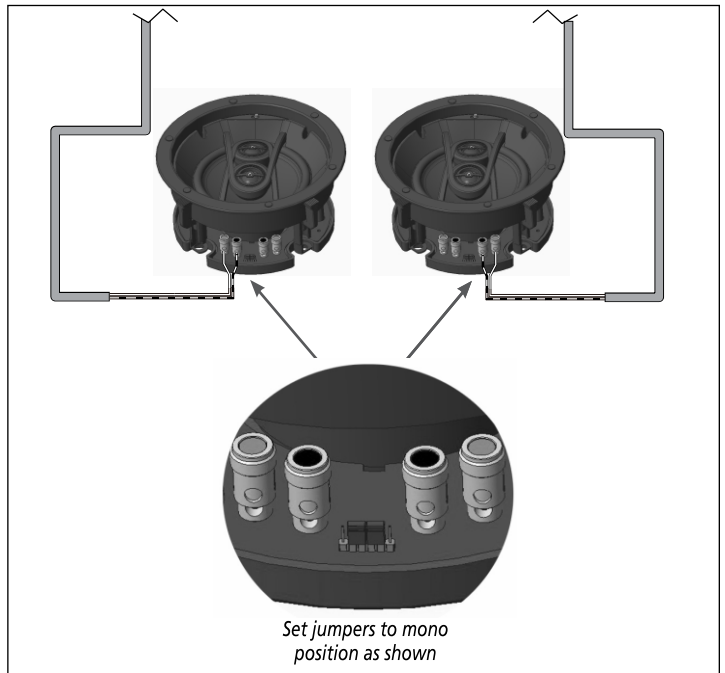
Connect the speaker wires for one channel to one set of terminals, and the speaker wires for the other channel to the other set of terminals.

If the sound from the speaker lacks definition, it is likely the polarity is incorrect. It does not matter which speaker terminals are connected to the left or right channel on your amplifier, but correct polarity is critical.

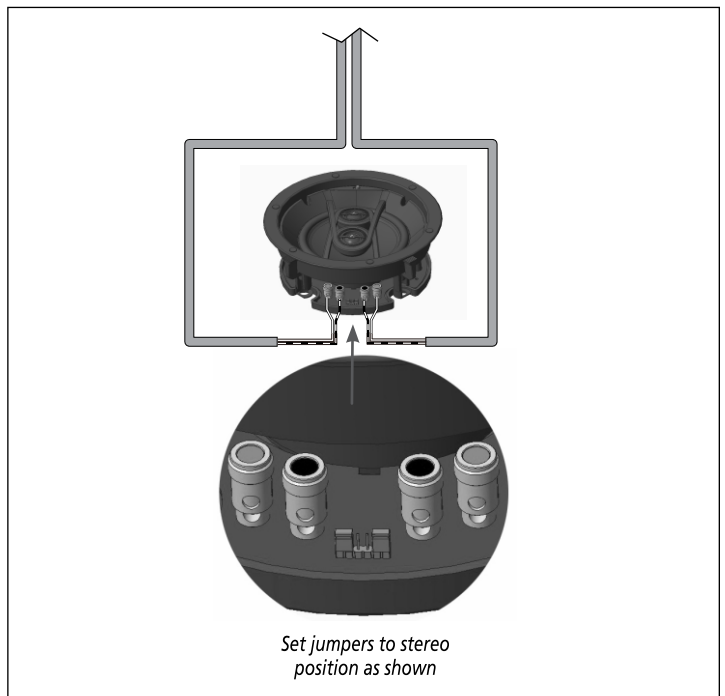
Wire Gauge and Quality

A good rule of thumb when installing speakers is to use 16-gauge wire for runs up to about 50 feet. Use 14-gauge wire for longer runs. 18-gauge is acceptable for short runs less than about 25 feet. Use speaker wire whose insulation meets local building codes. Consult a knowledgeable installer for more details.

Using two AZ620 or AZ820 speakers for stereo (conventional/surround use)



Using one AZ620 or AZ820 for single point stereo setup



Installation

Installing Your Loudspeakers During a New Construction/Renovation

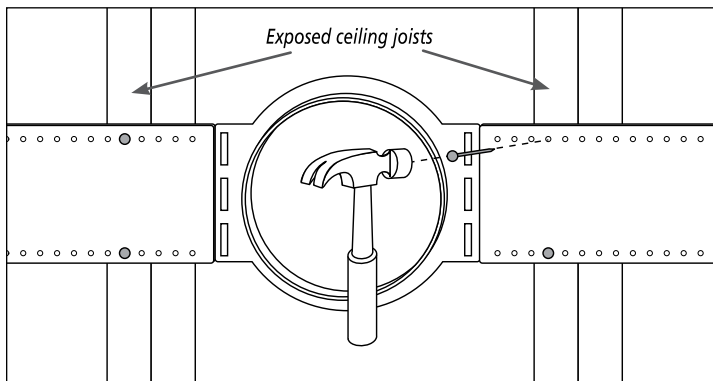
If you are installing your flush-mount Atlantic Technology loudspeakers during a renovation or new construction, you will probably have the benefit of exposed joists, ceilings and stud walls. This makes the running of the speaker wire much more straightforward.

The mounting surfaces used should be at least 1/2" (10mm) thick to ensure safety and speaker stability.

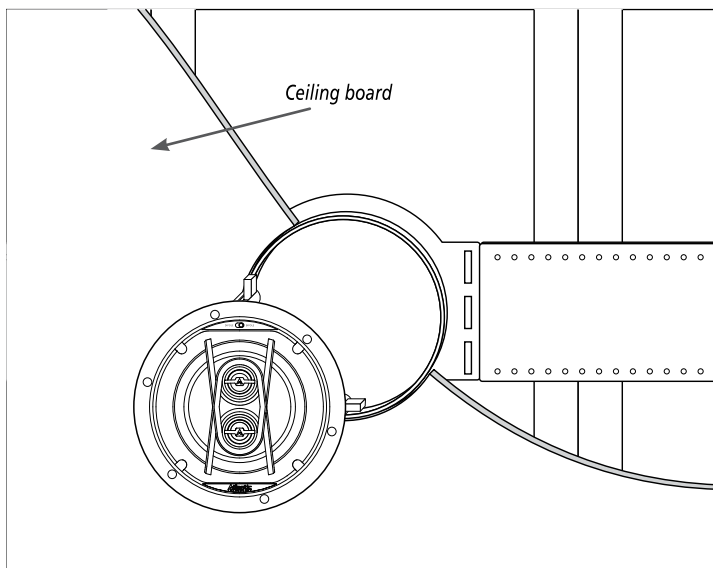
Your Atlantic Technology loudspeakers have optional pre-construction brackets. These can be used to assist with installation. They can be nailed or stapled between the joists or studs in the planned speaker position with the flange of the speaker cutout facing out.

As the plasterboard is fitted you will find it easier to accurately cut out the necessary hole for your Atlantic Technology loudspeaker reducing installation time and debris when the speakers are being fitted.

installing pre-construction bracket



Mounting with pre-construction bracket



Installing Your Loudspeakers in a Pre-Existing Construction

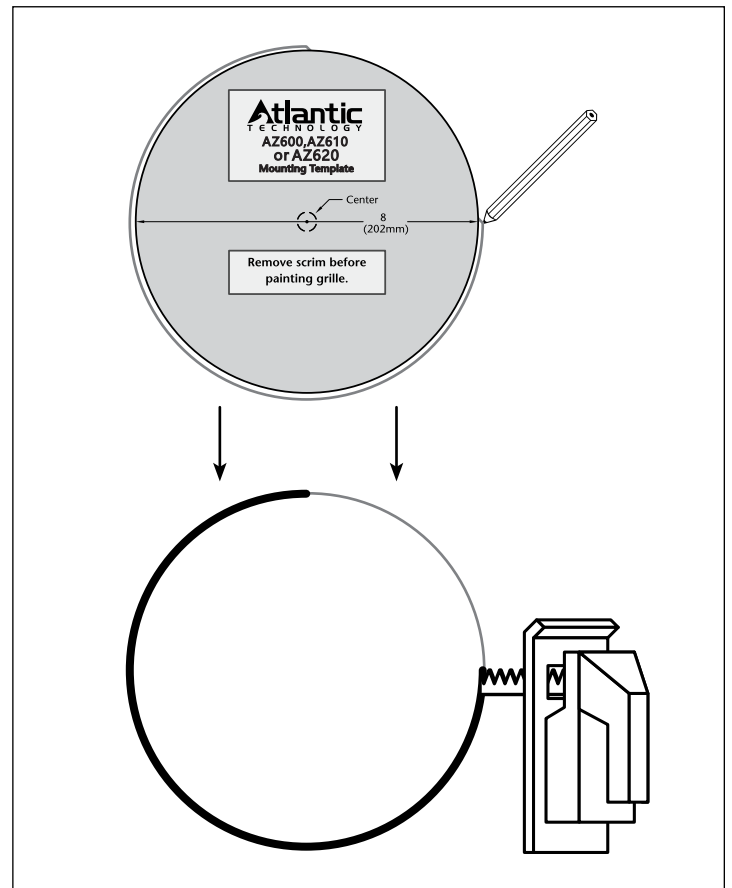
If you are installing your flush-mount Atlantic Technology loudspeakers in existing construction, installation may be a little more challenging as you may have to fish cables to minimize any disruption to the decor of your home.

The first step in installing flush-mount loudspeakers in existing construction is to establish the location of the ceiling joists. You may be able to do this by lifting upstairs floorboards or using stud finding tools. If not, you may need to make pilot holes and a probe but recognize this may entail making cosmetic repairs afterwards.

Once a suitable location is identified, you will need to cut out the correct size opening in the surface of the plasterboard using the supplied cut-out template. You should make a pilot hole first and take care not to cut into pre-existing electrical cables or plumbing.

You will need to run speaker cable from the opening back to the amplifier (in the case of the Single-stereo model AZ820 or 620, you will need two cables). Ensure you comply with any building codes that may apply in your location.

Using the template to cut a hole



NOTE: When installing in an existing construction, take care not to cut through any existing wiring or plumbing.

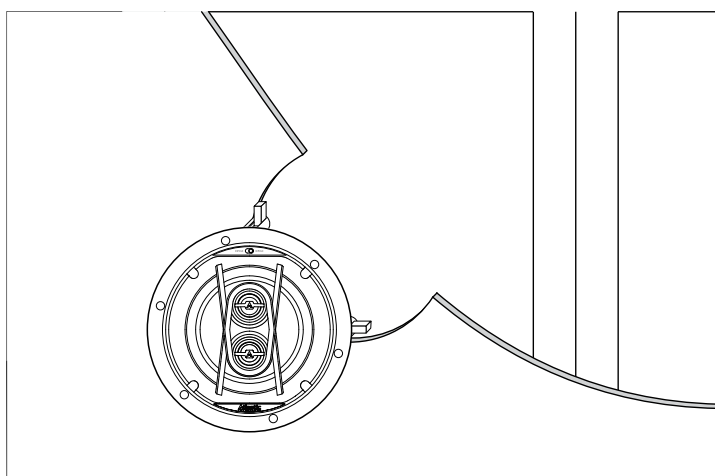
Fitting the Speaker into the Cut-Out Opening

Before inserting the speaker into the opening in the wall/ceiling, attach the speaker cable(s) to the speaker, taking care to ensure the correct polarity of the speaker wires as this is critical to the correct operation of the speakers.

Insert the speaker housing into the opening and tighten the mounting screws to engage the dog-leg fasteners. Be careful to not over-tighten. The dog-leg fasteners will clamp the speaker frame and the mounting surface together.

To attach the speaker grille, position the grille over the speaker frame. Powerful magnets embedded in the frame will draw the grille towards the frame. Be sure the grille is centered properly over the frame and that it snugly fits down to the correct centered position.

Fitting speaker into cutout

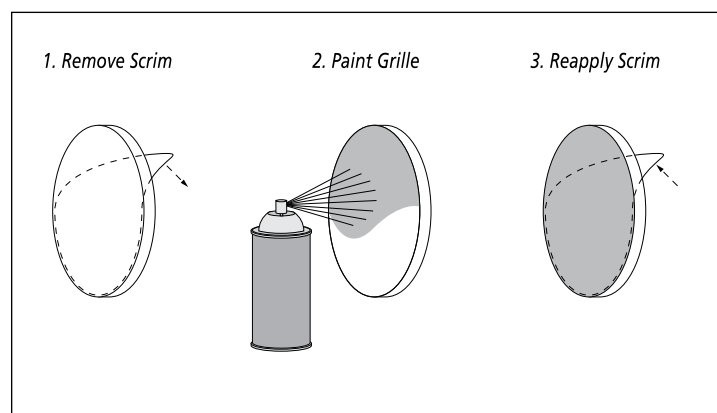


Painting the Speakers and Grilles

Both the speaker frames and the grilles can be painted, if desired. We recommend doing this before installation. Always paint the grilles separately from the speaker itself. First, remove the white scrim cloth from behind the grille. The grilles should only be spray painted very lightly to avoid clogging the fine mesh of the grille and restricting the sound. Once the grille is dry, replace the scrim cloth by gently placing it behind the grille. No adhesive is necessary; gravity will keep it in place.

Only install the speakers and grilles once the paint has dried thoroughly.

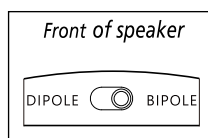
Painting the grilles



Acoustic Adjustments

Dipole/Bipole Operation of AZ620 and AZ820 Speaker

In Dipole mode the 20s produce ambience with minimal localization (best for most movies and video soundtracks). In Bipole mode they produce more localizable sound (preferred for some music recordings).



Switching between Dipole and Bipole mode is easily accomplished using a slide switch located on the rear of the speaker. Please note that the vast majority of the time in movies and TV broadcasts the surround speakers are called upon to reproduce the environmental sounds that are used as cues to help get you immersed in the scene on the screen.

Once the surround speakers are properly positioned in the listening area, we recommend that you begin with the dipole mode, as this usually delivers the most involving and believable surround performance in most situations.

Adjusting the Directionality of Your Speakers

NOTE: Do not apply pressure to the tweeter dome itself. The pivoting tweeter can be used to direct sound towards or away from a listening area. To pivot the tweeter, apply light pressure to the plastic ring around the outside edge of the tweeter.

If your speakers are widely separated and the music fails to blend into a central image when the system is operated in stereo mode, you should orientate the tweeters toward the listening area.

Specifications

	AZ600	AZ610	AZ620	AZ810	AZ820
Woofers:	6.5" fiberglass cone, rubber surround, 1" voice coil, vented pole piece	6.5" fiberglass cone, rubber surround, 1" voice coil, vented pole piece	6.5" fiberglass cone, dual 1" voice coil, vented pole piece	8" fiberglass cone, rubber surround, 1.25" voice coil, vented pole piece	8" fiberglass cone, rubber surround, dual 1" voice coil, vented pole piece
Tweeters:	1" silk dome, wide dispersion, 30 degrees of tilt, ferro-fluid cooled, neodymium magnet	1" silk dome, wide dispersion, 30 degrees of tilt, ferro-fluid cooled, neodymium magnet	Dual 3/4" silk dome, ferro-fluid cooled, 30 degrees of tilt, neodymium magnet	1" silk dome, wide dispersion, 30 degrees of tilt, ferro-fluid cooled, neodymium magnet	Dual 1" silk dome, ferro-fluid cooled, 30 degrees of tilt, neodymium magnet
Crossover:	3.0 kHz, 12db per octave crossover, PP capacitors, tweeter protection circuit	3.0 kHz, 12db per octave crossover, PP capacitors, tweeter protection circuit	2.7 kHz, 12db per octave crossover, PP capacitors, tweeter protection circuit	2.7 kHz, 12db per octave crossover, PP capacitors, tweeter protection circuit	2.7 kHz, 12db per octave crossover, PP capacitors, tweeter protection circuit
Additional Features	Acoustically optimized horn, reinforced tweeter bridge	Tweeter level Boundary compensation	Dipole/bipole tweeter switch, 2ch single point stereo mode, Acoustically optimized horn, reinforced tweeter bridge	Tweeter level Boundary compensation	Dipole/bipole tweeter switch, 2ch single point stereo mode, Acoustically optimized horn, reinforced tweeter bridge
Frequency Response:	48Hz-22KHz	48Hz-22kHz	48Hz-22kHz	45Hz-22KHz	45Hz-22KHz
Sensitivity:	87dB	88dB	88dB	89dB	89dB 1W/1M
Recommended amplifier power:	10-125 watts	10-125 watts	10-125 watts per channel	10-150 watts	10-150 watts per channel
Impedance:	6 Ohms	6 Ohms	8 Ohm per channel	6 ohms	8 Ohm per channel
Cut-out size:	8" (202mm)	8" (202mm)	8" (202mm)	9 5/8" (244mm)	9 5/8" (244mm)
Mounting Depth:	4 13/16", (122.24cm)	4 13/16", (122.24cm)	4 13/16", (122.24cm)	5 1/2", (139.7cm)	5 1/2", (139.7cm)
Weight (single speaker):	3.26 lbs, (1.48kg)	4.36 lbs, (1.98kg)	4.7 lbs, (2.14kg)	5.85 lbs, (2.66kg)	5.15 lbs, (2.34kg)
Optional New Construction Bracket:	IC-NC-TLC-6	IC-NC-TLC-6	IC-NC-TLC-6	IC-NC-TLC-8	IC-NC-TLC-8
Optional Square Grill:	SQ-GRILLS-6	SQ-GRILLS-6	SQ-GRILLS-6	SQ-GRILLS-8	SQ-GRILLS-8

Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or appearance at any time without notice.

Warranty

First, we'd like to thank you for purchasing an Atlantic Technology product. We wish you many years of enjoyment and satisfaction from it.

Second, be aware that you don't have to send in any Warranty card to be covered by the Limited Warranty. All you need to do is keep your original Invoice or Bill of Sale for proof of purchase, meet the stated requirements, and follow the instructions listed within that Warranty. Please attach your Original Invoice or Bill of Sale to this manual as proof of purchase and keep them in a safe place.

VERY IMPORTANT NOTE: PLEASE NOTE THAT ATLANTIC TECHNOLOGY PRODUCTS CARRY ONLY A 90 DAY LIMITED WARRANTY. YOU MUST MEET ALL THE BELOW REQUIREMENTS AND REGISTER ONLINE IN ORDER TO BE COVERED BY THE FREE EXTENDED SERVICE AGREEMENT TO ASSURE EXTENDED FREE PROTECTION!!

Free Extended Service Agreement

Atlantic Technology offers a free Extended Service Agreement that provides enhanced protection against product defects. In order to qualify for the free Extended Service Agreement you must:

1. Have purchased your Atlantic Technology products from an Authorized Atlantic Technology Reseller or Installer.
2. Go to www.atlantictechnology.com and click on Support>Register Your Warranty. Fill out the required information. Be sure to have your home address, name, address and invoice from the business you purchased, and the serial numbers of all Atlantic Technology products purchased.
THIS MUST BE DONE WITHIN 30 DAYS OF PURCHASE.
3. If you purchased multiple Atlantic Technology products you will be able to enter them all using one online form. Model and Serial numbers can be found on the back of each unit and on the outside of their respective boxes.

Once all the criteria have been met, you will receive, by return email, a free Extended Service Agreement that entitles you to additional coverage against defects in workmanship and manufacturing for a period of up to 5 years on passive speakers and up to 1 year on powered speakers (including subwoofers). This coverage is in addition to the 90 Day Limited Warranty included with all Atlantic Technology products.

If you are not able to register your product using the internet, please call customer service at 781-762-6300.

Limited Warranty

Statement of Warranty: Atlantic Technology International Corp. warrants Atlantic Technology Products to be free from defects in material and workmanship for 90 days from the time of original purchase. This Warranty covers the original retail purchaser of this product only and is valid only in the Continental United States, Alaska, and Hawaii and all US Possessions.

Extended Service Agreement (only available in the Continental United States, Alaska, and Hawaii and all US Possessions): You must complete the Extended Service Agreement application, and meet all of the purchase criteria stated on that application, to receive an Extended Service Agreement that covers your Atlantic Technology products well beyond the standard 90 day Warranty.

To obtain Warranty service: Please contact your local Atlantic Technology reseller to determine if they are an Authorized Repair Center for Atlantic Technology products. You will need your original Invoice or Bill of Sale to prove Warranty eligibility. If your local dealer is not an Authorized Warranty Center you may contact us at 781-762-6300 for further help or to send the product back to us for service and repair. You must first get a Return Authorization Number from us to ship the product back, so it is imperative that you call us first.

What we are responsible for: We will pay for all labor and parts for covered items. If the repairs are eligible for coverage under the terms of this Warranty we will also pay for return shipping charges to you.

What you are responsible for: You must pack the product properly for safe shipping to your Authorized Dealer or us. You are responsible to pay for all packing, shipping, and insurance costs to get the unit(s) back to Atlantic Technology or your Authorized Dealer.

Optional replacement: We, at our option, may replace rather than repair your Atlantic Technology product with a new or reconditioned one of the same or similar design. The repair or replacement will be warranted for 90 days from date of receipt back to you. All details in terms of eligibility for an Extended Service Agreement will carry over from the original purchase to the replacement item.

What this Warranty does not cover: This Warranty does not cover defects resulting from accidents, damage while in transit, alterations, unauthorized repair, failure to follow instructions, misuse, fire, flood, and Acts of God. This Warranty will be void if the products serial number has been altered or removed or if the product has been modified or defaced.

Exclusions and Limitations: Implied warranties, including those of fitness for a particular purpose and merchantability (an unwritten warranty that the product is fit for ordinary use) are limited to the period of any Warranty granted hereby. We will not pay for loss of time, inconvenience, loss of use, or property damage caused by your Atlantic Technology product or its failure to work, or any other incidental or consequential damages.

State law rights: Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

This Warranty is valid only when Atlantic Technology products are purchased from an Authorized Atlantic Technology Reseller in the Continental United States, Alaska, and Hawaii and all US Possessions. If you purchase Atlantic Technology products outside the United States please consult your local distributor or reseller for applicable Warranty coverage and restrictions.

Should you have any questions or problems please feel free to contact us at 781-762-6300 or through our web site, www.atlantictechnology.com.



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